CLAIMS

What is claimed is:

1. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that specifically binds to OB-cadherin; and

(b) detecting in the sample an amount of polypeptide that binds to the binding agent, relative to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

2. A method according to claim 1 wherein the binding agent is a monoclonal antibody.

3. A method according to claim 1 wherein the binding agent is a polyclonal antibody.

4. A method according to claim 1, wherein the binding agent comprises an OB-cadherin CAR sequence, or an analogue or mimetic thereof.

5. A method according to claim 1, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

6. A method according to claim 1, wherein the binding agent specifically binds to an extracellular domain of OB-cadherin.

7. A method according to claim 1, wherein the biological sample is selected from the group consisting of blood, serum, urine, tumor biopsies, peritoneal fluid, cerebrospinal fluid, prostate secretions and fractions of the foregoing samples.

8. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient at a first point in time with a binding agent that specifically binds to OB-cadherin;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

9. A method according to claim 8 wherein the binding agent is a monoclonal antibody.

10. A method according to claim 8 wherein the binding agent is a polyclonal antibody.

11. A method according to claim 8, wherein the binding agent comprises an OB-cadherin CAR sequence, or an analogue or mimetic thereof.

12. A method according to claim 8, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

13. A method according to claim 8, wherein the binding agent specifically binds to an extracellular domain of OB-cadherin.

14. A method according to claim 8, wherein the biological sample is selected from the group consisting of blood, serum, urine, tumor biopsies, peritoneal fluid, prostate secretions and fractions of the foregoing samples.

15. A method for evaluating the metastatic potential of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient afflicted with cancer with a binding agent that specifically binds to OB-cadherin; and

(b) detecting in the sample an amount of polypeptide that binds to the binding agent, relative to a predetermined cut-off value, and therefrom evaluating the metastatic potential of the cancer in the patient.

16. A method according to claim 15 wherein the binding agent is a monoclonal antibody.

17. A method according to claim 15 wherein the binding agent is a polyclonal antibody.

18. A method according to claim 15, wherein the binding agent comprises an OB-cadherin CAR sequence, or an analogue or mimetic thereof.

19. A method according to claim 15, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

20. A method according to claim 15, wherein the binding agent specifically binds to an extracellular domain of OB-cadherin.

21. A method according to claim 15, wherein the biological sample is selected from the group consisting of blood, serum, urine, tumor biopsies, peritoneal fluid, prostate secretions and fractions of the foregoing samples.

22. A diagnostic kit comprising:

(a) one or more monoclonal antibodies that specifically bind to an OB-cadherin CAR sequence; and

(b) a detection reagent.

23. A kit according to claim 22 wherein the monoclonal antibodies are immobilized on a solid support.

24. A kit according to claim 23 wherein the solid support comprises nitrocellulose, latex or a plastic material.

25. A kit according to claim 22 wherein the detection reagent comprises a reporter group.

26. A kit according to claim 25 wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

27. A method for determining the presence or absence of a metastatic cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes OB-cadherin; and

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide, relative to a predetermined cut-off value, and therefrom determining the presence or absence of a metastatic cancer in the patient.

28. A method according to claim 27, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using polymerase chain reaction.

29. A method according to claim 27, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

30. A method according to claim 27, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

31. A method according to claim 27, wherein the biological sample is an RNA or cDNA preparation.

32. A method for monitoring progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient with an oligonucleotide that hybridizes to a polynucleotide that encodes OB-cadherin;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring progression of a cancer in the patient.

33. A method according to claim 32, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using polymerase chain reaction.

34. A method according to claim 32, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

35. A method according to claim 32, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

36. A method according to claim 32, wherein the biological sample is an RNA or cDNA preparation.

37. A method for evaluating the metastatic potential of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient with an oligonucleotide that hybridizes to a polynucleotide that encodes OB-cadherin; and

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide, relative to a predetermined cut-off value, and therefrom evaluating the metastatic potential of the cancer in the patient.

38. A method according to claim 37, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using polymerase chain reaction.

39. A method according to claim 37, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

40. A method according to claim 37, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

41. A method according to claim 37, wherein the biological sample is an RNA or cDNA preparation.

42. A diagnostic kit, comprising:

(a) an oligonucleotide that hybridizes to a polynucleotide that encodes OB-cadherin, or to a complement of such a polynucleotide; and

(b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

43. A diagnostic kit, comprising:

(a) an oligonucleotide that hybridizes to a polynucleotide that encodes OB-cadherin, or to a complement of such a polynucleotide; and

(b) a second oligonucleotide 10-40 nucleotides in length.

44. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that specifically binds to N-cadherin; and

(b) detecting in the sample an amount of polypeptide that binds to the binding agent, relative to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

45. A method according to claim 44 wherein the binding agent is a monoclonal antibody.

46. A method according to claim 44, wherein the binding agent comprises a N-cadherin CAR sequence, or an analogue or mimetic thereof.

47. A method according to claim 44, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

48. A method according to claim 44, wherein the binding agent specifically binds to an extracellular domain of N-cadherin.

49. A method according to claim 44, wherein the biological sample is selected from the group consisting of blood, serum, urine, tumor biopsies, peritoneal fluid, cerebrospinal fluid, prostate secretions and fractions of the foregoing samples.

50. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient at a first point in time with a binding agent that specifically binds to N-cadherin;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

51. A method according to claim 50 wherein the binding agent is a monoclonal antibody.

52. A method according to claim 50, wherein the binding agent comprises a N-cadherin CAR sequence, or an analogue or mimetic thereof.

53. A method according to claim 50, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

54. A method according to claim 50, wherein the binding agent specifically binds to an extracellular domain of N-cadherin.

55. A method according to claim 50, wherein the biological sample is selected from the group consisting of blood, serum, urine, tumor biopsies, peritoneal fluid, prostate secretions and fractions of the foregoing samples.

56. A method for evaluating the metastatic potential of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient afflicted with cancer with a binding agent that specifically binds to N-cadherin; and

(b) detecting in the sample an amount of polypeptide that binds to the binding agent, relative to a predetermined cut-off value, and therefrom evaluating the metastatic potential of the cancer in the patient.

57. A method according to claim 56 wherein the binding agent is a monoclonal antibody.

58. A method according to claim 56, wherein the binding agent comprises a N-cadherin CAR sequence, or an analogue or mimetic thereof.

59. A method according to claim 56, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

60. A method according to claim 56, wherein the binding agent specifically binds to an extracellular domain of N-cadherin.

61. A method according to claim 56, wherein the biological sample is selected from the group consisting of blood, serum, urine, tumor biopsies, peritoneal fluid, prostate secretions and fractions of the foregoing samples.

62. A method for determining the presence or absence of a metastatic cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes N-cadherin; and

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide, relative to a predetermined cut-off value, and therefrom determining the presence or absence of a metastatic cancer in the patient.

63. A method according to claim 62, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using polymerase chain reaction.

64. A method according to claim 62, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

65. A method according to claim 62, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

66. A method according to claim 62, wherein the biological sample is an RNA or cDNA preparation.

67. A method for monitoring progression of a cancer in a patient,

comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient with an oligonucleotide that hybridizes to a polynucleotide that encodes N-cadherin;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring progression of a cancer in the patient.

68. A method according to claim 67, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using polymerase chain reaction.

69. A method according to claim 67, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

70. A method according to claim 67, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

71. A method according to claim 67, wherein the biological sample is an RNA or cDNA preparation.

72. A method for evaluating the metastatic potential of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a cancer patient with an oligonucleotide that hybridizes to a polynucleotide that encodes N-cadherin; and

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide, relative to a predetermined cut-off value, and therefrom evaluating the metastatic potential of the cancer in the patient.

73. A method according to claim 72, wherein the amount of polynucleotide

that hybridizes to the oligonucleotide is determined using polymerase chain reaction.

74. A method according to claim 72, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

75. A method according to claim 72, wherein the cancer is selected from the group consisting of leukemia, prostate cancer, breast cancer and ovarian cancer.

76. A method according to claim 72, wherein the biological sample is an RNA or cDNA preparation.